



The International Dictionary of  
**GRAPHIC SYMBOLS**



# The International Dictionary of **GRAPHIC SYMBOLS**

Joel Arnstein



Kogan Page

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This volume is a handbook for the identification and understanding of graphic symbols and is intended for both specialist and lay people in the subjects with which it deals. It includes symbols in domestic and everyday use, such as those on fabric care labels and road signs, and symbols used in technical spheres, such as architecture and electronics.

The symbols in this book are grouped together by subject and the various subjects listed alphabetically so as to provide a ready means of finding symbols when working within any particular field. Within each field, symbols are divided into sub-sections as appropriate to the subject. For initial reference purposes details of the sub-sections are given in the list of contents.

While this handbook covers the widest possible range of subjects, pottery and silver marks have had to be excluded as they are too numerous to detail satisfactorily in a book of this nature; for a similar reason, no attempt has been made to list all current trade marks and logos.

The symbols and explanations listed are believed to be those most widely accepted within the limitations described in the introduction to each section. Priority has been given to the inclusion of the symbols conforming to international practice. Symbols used primarily in the USA and the UK are included in areas where the use of international symbols has not been established. Certain nationally-used symbols which are commonly employed as alternatives to international symbols have also been given. Abbreviations and other additional information thought useful to the symbol reader are also included.

Today everyone encounters and needs to comprehend graphic symbols in a bewildering variety of forms and situations. That this should be the case thousands of years after the invention of the first alphabet may seem strange. However, today there is a great need for symbols that provide a quickly understandable means of communication without the language limitations of the written word in a world where technology is advancing rapidly and where trade, tourism, communications and legislation are becoming increasingly international. At the beginning of this century, Arabic numerals and musical notation were the only symbol systems with any of the attributes of a universal language. Today, more and more forms of symbol are achieving a similar status. This book, it is hoped, will provide some assistance in improving general understanding and communication.

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Material from British Standards is reproduced by permission of the British Standards Institution, 2 Park Street, London W1A 2BS from whom complete copies of the standards can be obtained. I would like to thank the Institution and the other publishers who granted permission for their material to be republished:

*ANSI Standards Z32.2.3 – 1949 (r 1953) and Z32.2.4 – 1949 (r 1953)* – American National Standards Institute (these standards were originated by the American Society of Mechanical Engineers who kindly granted permission for material from them to be used in this book)

*Architectural Graphic Standards* (7th edn, 1981), Ramsey/Sleeper – John Wiley and Sons, Inc

*British Admiralty Chart no 5011* – certain nautical chart symbols conforming to international practice were reproduced from this ‘chart’ (book of chart symbols) by permission of the Controller, HM Stationery Office, and the Hydrographer of the Navy

*Cartographic Technical Standards – TS Paper 4.02.1 dated 11/11/77* (geological symbols) – US Geological Survey (US Department of the Interior)

*Chart Specifications of the IHO* (sections 300 and 400) – International Hydrographic Bureau

*DIN/ISO Standard 4067 Part 1* – Deutsches Institut für Normung e. V.

*European rules concerning road traffic, signs and signals* (Feb 1974) – European Conference of Ministers of Transport (produced by OECD Publications, Paris)

*Heraldry: Customs, Rules and Styles*, Carl Alexander von Volborth – Blandford Press

*Heraldry of the World*, Carl Alexander von Volborth – Blandford Press

*International Legend for Hydrogeological Maps* (1970) – UNESCO

*Norton's Star Atlas* (17th edn, 1978) – Gall and Inglis Ltd

*SI, The International System of Units* (1977) – the National Physical Laboratory (translated from ‘Le Systeme International d’Unites’ published by BIPM)

*Standard Geological Symbols* (legend produced by Department of National Development, Canberra) as published in *Field Geologists Manual*, Berkman (1976) – the Australian Institute of Mining and Metallurgy

*Standard Highway Signs* (1979) – US Department of Transportation

*Standard Legend* (1976) – Shell Internationale Petroleum Maatschappij BV, the Hague

*Standard Method of Detailing Reinforced Concrete* – The Concrete Society

*(The) Traffic Signs Regulations and General Directions 1981*, Statutory Instrument No. 859 – HM Stationery Office (British traffic signs are reproduced in this book by permission of the Controller, HM Stationery Office)

*United States Road Symbol Signs* (1979) – US Department of Transportation

*Units of Measurement – ISO Standards Handbook 2* (2nd edn, 1982) – International Organisation for Standardization

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The Concrete Society

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Architectural drawings are used to explain proposed projects to lay people and to issue instructions to builders.


The graphic symbols and conventions in this section are used in such drawings and are widely understood by those people associated with the building industry. However, there is no universally accepted standard for architectural symbols. Drawing and style vary between countries, regions, architectural practices and between individual draughtsmen. As a result, such symbols should be considered to be merely aids towards drawing clarity, without the precision of meaning to be found, for instance, in musical or mathematical notation. Written specification is often required to define the meaning further.


For other symbols frequently incorporated into production drawings, see *Electrical, Engineering (Civil and Structural)* and *Engineering (Plumbing, Ventilation and Ductwork)*.

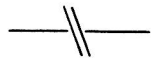
**LINES**


Note: Lines are normally thicker where the construction shown is 'cut through' or in section.


**hidden detail or existing construction to be removed** 


**break line** used in delineating partially drawn objects, except for partially drawn cylindrical objects 

alternative to above symbol 

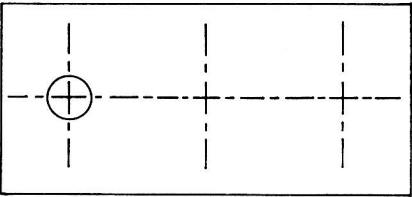
alternative to above symbol 

**break in solid cylinder, eg rod, rail, column** 

**break in hollow cylinder, eg pipe** 

**centre line or axis or structural grid line or section line** 

**repeated features**



can be indicated by one drawn object and the centre lines of the remainder, as above

**property/boundary line** 

**ARROW FORMS AND ALTERNATIVES**

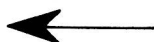
Note: All the arrow forms and graphic alternatives in this section are in common use. However, it is desirable that, within any one body of drawings, a limited selection of arrow forms (with set functions and a recognizable hierarchy) is adopted.

**open arrow** 

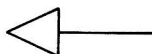
**solid arrows** 

# ARCHITECTURE

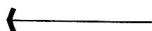
**solid arrows continued**



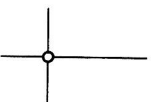
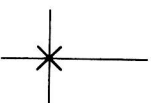
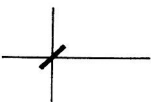
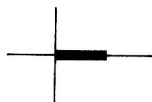
**hollow arrows**



**accented lines**



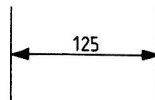
**accented line intersections**



## DIMENSIONS

**Note:** Dimensions on a drawing should normally be given entirely in imperial or entirely in metric units, and the form of unit used should be stated on the drawing. Certain European draughtsmen use centimetres, but the internationally accepted SI metre system allows only for metres (abbreviation 'm') and for millimetres (abbreviation 'mm'). Where one unit type is used throughout a drawing, the abbreviations are normally omitted. Decimal points should be located on the base line of the figures (eg 5.427 and not 5.427) to avoid confusion, thousands should be indicated by a gap (eg 52 785 and not 52,785). However, the normal mathematical usages of commas and decimal points are frequently to be found.

**dimension lines;** the BSI recommends (ref PD 6479: 1976) that coordinating or modular dimensions are indicated by open arrows while other dimensions are shown by solid arrows. However, most of the above arrow forms are in common use. (The figures given are simply examples.)



**diameter**



## REFERENCE, LOCATION AND DIRECTION SYMBOLS

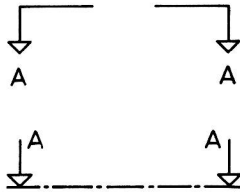
**reference symbol** for sections, detail drawing, etc. Letter (or number) above the line is the subject's reference; letters and or numbers below the line are drawing sheet reference of drawing sheet on which the subject is located. Not in universal use.



**direction of view**  
(of elevation) various alternative arrow forms and/or reference symbol also used.

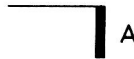
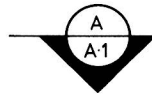


## section line

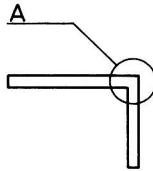


defines the location of the plane of the section or 'cut through', the arrow(s) indicate(s) the direction of view, adjacent letter(s) (and/or numbers) give(s) the section's reference. To avoid visual confusion, only a small part of the line may be drawn (forming a right-angled corner with the arrow shaft), or the line is drawn as a dot-dash line or a line of different thickness to other lines forming the drawing.

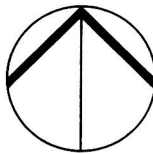
Alternative arrow forms and/or reference symbols are also used; eg



**detail reference** giving location of detail. The circle, indicating the area enlarged in the detail drawing, may be omitted and the general area of the detail indicated by one of the arrow forms. The reference symbol may also be incorporated.



**north symbol**, drawn on to plans to give the orientation of building. Alternative arrow forms may be used within the circle to form this symbol. The letter 'N' may be incorporated. Sometimes a secondary arrow indicating magnetic north is added.



alternative to above symbol

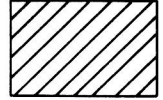


## MATERIALS — shown in section

Note: The symbolic 'textures' are normally used, filling only the extremities of the drawing. Those marked 'BS 1192' are in accordance with British Standard.

### General

#### all materials in section

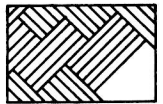


#### all hidden or adjacent parts in section

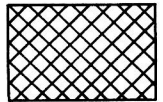


### Ground

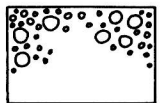
#### earth/compact fill



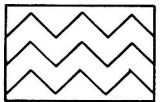
#### made ground/refill, alternative to above symbol (or blockwork)



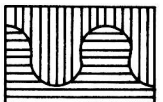
#### gravel/porous fill



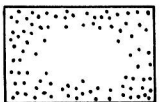
#### hardcore



#### rock



#### sand (or screed; mortar; plaster; cut stone)

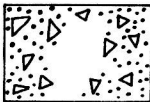




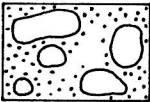
# ARCHITECTURE

## Concrete

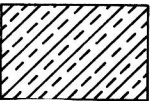
**concrete**, general symbol (BS 1192), lightweight concrete



**in situ/precast concrete**



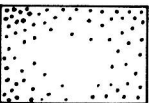
alternative to above symbol  
(or copper alloy; stone)



**concrete** (may be lightly shaded), alternative to the above concrete symbols



**screed** (BS 1192)  
(or mortar; plaster; cut stone;  
sand)



**concrete blockwork**  
(small-scale)



**concrete blockwork**  
(large scale) (or made ground)



## Brick

**brick** (BS 1192)



**common-face brick** (or  
metal)



**fire brick**



**structural facing tile**

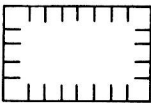


## Stone

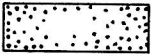
**stone** (BS 1192)  
(or copper alloy)



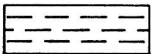
alternative to above symbol



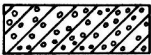
**cut stone** (or screed; mortar;  
plaster; sand)



**bluestone/slate/soapstone  
flagging**



**rubble**



**marble**

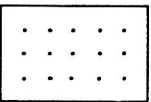


## Adobe rammed earth

alternative (a)

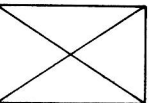


alternative (b)



## Timber

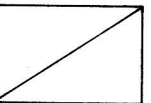
**unwrot** (BS 1192)



**wrot** (BS 1192)



**blocking**



**plywood** (small-scale)



**plywood** (large-scale)

